

REMARKS/ARGUMENTS

The amendment to Claims 19, 26, 34 and 42 corrects the depiction of the carbene ligands by noting that the claimed complexes of formula (I) are cyclometallated complexes wherein M¹ is connected to both the carbene moiety and the phenyl ring, as shown at page 2 of the Official Action dated June 25, 2009, and in, e.g., formulae (IB) and (IC) at specification pages 20ff. See, in particular, the structures described in the paragraph bridging specification pages 21 and 22. In addition, formula (IC) in Claim 27 has been simplified and rewritten using the specific carbene to which the claim was previously limited in order to make it clear that Claim 27 does not include non-elected subject matter. As these amendments do not further limit the claims or change their scope but instead simply clarify the structures of the complexes previously claimed these amendments should be entered as they raise no new issues¹ and place the claims in better condition for Appeal.

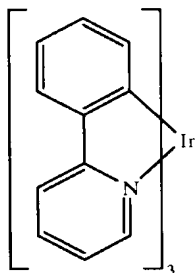
As the Examiner will appreciate, the above amendments address the objections to pending Claims 27, 31-33, 37-39 and 41 as containing non-elected subject matter, and this objection should be withdrawn.

Applicants thank Examiner Kosack for the withdrawal of the anticipation rejection over Hitchcock.

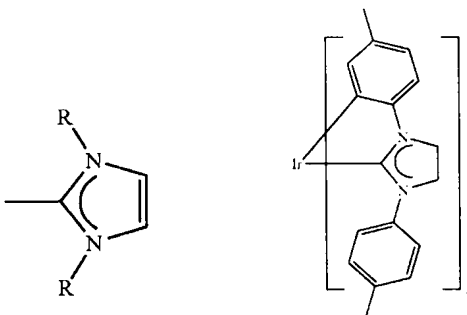
The obviousness rejection over Hitchcock in view of Thompson has been repeated and made Final based, apparently, on the misunderstanding that Thompson “does have a carbene ligand via the direct attachment of the benzene ring to the iridium atom.” See page 3, lines 4-5 of the outstanding Official Action. Thompson does not show a carbene ligand.

Specifically, the complex of phenyl pyridine that is disclosed in Thompson at page 3 thereof and relied upon by the Office has the following formula:

¹ Indeed, the correct bonding scheme between M¹ and the carbene of the present claims was recognized by the Examiner in the Official Action dated June 25, 2009, at page 2 thereof.



This complex does not contain any carbene ligand. A carbene ligand is a neutral, divalent carbene species having six valence electrons.² The complexes in Thompson comprise a neutral ligand part which is connected via a nitrogen atom, and an anionic ligand part, being a cyclometallated phenyl ring. The phenyl ring is, therefore, an anionic part of the ligand, but is not a carbene ligand. Contrast the complex of Thompson, above, with those carbenes described in the present specification at, e.g., page 5:



While the compound according to Thompson and the compounds according to the present invention have a cyclometallated phenyl ring in common, the difference can be found at the neutral donor, being a pyridine moiety comprising a nitrogen atom in Thompson and a carbene moiety comprising a carbon atom in the present invention.

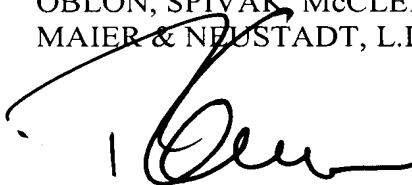
² Carbene: In chemistry, a carbene is an organic molecule containing a carbon atom with six valence electrons and having the general formula RR'C: (Organic Chemistry R.T Morrison, R.N Boyd pp 473-478; <http://en.wikipedia.org/wiki/Carbene>); Generic name for the species H₂C: and substitution derivatives thereof, containing an electrically neutral bivalent carbon atom with two nonbonding electrons (<http://www.chemicool.com/definition/carbene.html>).

Thus, it is not the case that Thompson “does have a carbene ligand via the direct attachment of the benzene ring to the iridium atom.” This is important, because Hitchcock does not disclose the use of any complexes in an OLED, or in any type of light-emitting layer. As shown above, Thompson is of no help in curing this omission, because carbenes are not disclosed for use as phosphorescent emitters in OLEDs in Thompson. For this reason, the combination of Hitchcock and Thompson is not suggestive of the present claims, and the rejection should be reconsidered and withdrawn.

Accordingly, as all outstanding issues have been addressed by the above amendments and remarks, Applicants respectfully request the reconsideration and withdrawal of the outstanding objections and rejections, and the passage of this case to Issue.

Respectfully submitted,

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